

## Review of “*Sargassum* accumulation and transport by mesoscale eddies,” by Sosa–Gutiérrez et al.

This study investigates the impact of eddies on the distribution and movement of *Sargassum* in the tropical Atlantic. By utilizing 13 years of satellite data, it demonstrates that both cyclonic and anticyclonic eddies can trap and transport *Sargassum*. The study also reveals that *Sargassum* tends to accumulate and cover more area in cyclonic eddies, while it is less abundant and diminishes in anticyclonic eddies.

I appreciate the extensive efforts involved in analyzing such a large geographic area over an extended period. It is encouraging to see the theoretical results of Beron-Vera & Miron (2020) effectively tested and validated. However, I have some comments and suggestions that should be addressed before a final recommendation can be made.

1. My primary concern pertains to the methodology employed for detecting eddies. It is widely recognized that the method outlined in the paper is observer-dependent. The authors should incorporate a discussion addressing the potential issues associated with this methodology. For a detailed analysis on this subject, refer to Andrade-Canto, F., & Beron-Vera, F. J. (2022). “Do eddies connect the tropical Atlantic Ocean and the Gulf of Mexico?” *Geophysical Research Letters* 49, e2022GL099637.
2. In line 30, the citation Beron-Vera et al. (2021) should be corrected to Beron-Vera (2021). Additionally, the paragraph lacks clarity and should be rewritten.
3. Around line 40, it is inaccurately stated that Andrade et al. (2022) investigated only a single instance. In reality, an 8-year-long record was analyzed in the Caribbean Sea, where the study discovered *Sargassum* in both cyclonic and anticyclonic formations in similar quantities.
4. Vic et al. (2022) do not significantly contribute to the issue explored in this paper. Based on my understanding, Vic et al. used drogued drifters in their study. Employing undrogued drifters instead could potentially provide more valuable insights.
5. Examining Figure 3e raises questions about the methodology used for eddy detection, as there is no evident pattern in the tracer distribution to corroborate the presence of an eddy.
6. The authors observe a greater accumulation in cyclones. However, what is the ratio of cyclones to anticyclones in the region, regardless of *Sargassum* presence?